

Leek
District



Urban
Council.

JOINT REPORT

OF THE

Medical Officer of Health

AND

Sanitary Inspector

ON THE

Sanitary Condition of Leek,

For the Year 1909.



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TO THE LEEK URBAN DISTRICT COUNCIL.

MR. CHAIRMAN AND GENTLEMEN,

In submitting my report for the year 1909, I must again point out that as these reports are framed according to the requirements of the Local Government Board and the Staffordshire County Council, there is necessarily a large amount of repetition of previous reports, as a statement of the local circumstances and a history of local sanitary questions, which may seem superfluous to you, may frequently be of the utmost importance to them.

GENERAL LOCAL FEATURES.

The Leek Urban Sanitary District covers an area of 1460 acres, and in the highest portion of what is a hilly district, attains an elevation of about 600 feet above sea level; the natural drainage is into the river Churnet.

A line drawn across the middle of the district, due north and south, marks fairly accurately its geological division; on the east of this line is a sub-soil of clay; on the west, one consisting of red sandstone.

Investigations have been made with the view of ascertaining what influence this difference of sub-soil has on the health of the inhabitants, both in respect to the general mortality, and more particularly as to its influence on the mortality from Phthisis, with the somewhat unexpected result that no appreciable difference could be demonstrated.

The population is mainly composed of artisans, the chief trade being silk manufacture and silk dyeing.

HOUSE ACCOMMODATION.

The house accommodation is fairly good, both as regards its adequacy, and fitness for habitation. Three cases of overcrowding have been investigated and reported on, and after notice had been served, the conditions were brought within legal limits, prosecution being rendered unnecessary.

I fear there are many cases best described as borderland cases, which I should heartily rejoice to get rid of, but the dearth of houses having good sized rooms at a low rent makes it impossible, for wages are always comparatively low in many branches of silk manufacture.

The injurious effects in these borderland cases would be largely counteracted if the people would learn to open the windows more freely and to unstop the chimneys which are stuffed with bags of shavings, etc., or blocked by boards which are frequently papered over. These conditions, which plainly mean want of fresh air and an accumulation of bad air in the bedrooms, have an

important bearing on our infant mortality, for infants are most susceptible to a poisonous atmosphere, and either die in the early months, or surviving these, grow up poor miserable undersized weaklings.

A sufficiency of open space about the houses is much more apparent in the more recently erected buildings, and their surroundings are clean. There are only eighteen back-to-back houses in the whole district, ten of these have two large bedrooms with good windows; each house being provided with separate water-closet.

Supervision is constantly exercised over the erection of all new dwellings.

SEWERAGE AND DRAINAGE.

The portions of the district requiring drainage improvement to which I have referred in previous reports, viz. : (1) the Wharf vicinity has been dealt with effectively by the laying down of a deep sewer in part of Newcastle Road, and (2) the west out-fall at Black Acres is now receiving the attention of a special sub-committee which is formulating a scheme to deal with the same. The legal difficulties involved make progress extremely slow

SEWAGE DISPOSAL.

Last year I reported :—“ The new installation is working well and continues to give good results. The character of our crude sewage is of an unusual strength.

SEWAGE AND EFFLUENT CERTIFICATE.

All results are expressed in grains per gallon.

	Crude Sewage.	Septic Tank Effluent.	Filter Effluent.	Analysis of a First Class Effluent for Com- parison.
	No. 1.	No. 2.	No. 3.	
Appearance in Tube	Yellow- ish	Cloudy.	Clear.	Clear.
Smell when heated to 100° F. ...	Sewage	Sewage	nil.	nil.
Total Solid Matter at 212° F. ...	105	50	35	05
Total Mineral Matter at 356° F. ...	99	47	31	63
Loss	6	3	4	2
Chlorine in Chlorides	11.0	6.5	6.8	18
Nitrogen in Nitrites	nil.	nil.	Slight Trace.	nil.
Nitrogen in Nitrates... ..	nil.	nil.	1.9	.30
Free Ammonia	4.0	3.2	.30	.40
Albumenoid Ammonia	1.40	.66	.14	.06
Oxygen { 3 minutes at 60°	2.59	2.54	.52	.10
Absorbed { 4 hours at 60° ...	11.48	5.76	.72 nil.	.4
Alkalinity calculated as Free Lime	nil.	nil.		nil.
Microscopical Exam. of the Deposit	Heavy Organic	Organic	Slight Organic	nil.

The filtered effluent shows a very satisfactory degree of nitrification and gives 93 per cent. of purification over the Sewage and 87 per cent. of purification over the septic effluent.

Dated December 30th, 1909.

J. CARTER BELL,

County Analyst.

EXCREMENT DISPOSAL.

The system in vogue for the disposal of excrement is mainly the water-carriage system, the remaining privies being gradually replaced by wash-down closets, either hand-flushed or furnished with flushing apparatus. During the year 13 privies have been demolished or converted into water-closets.

REMOVAL AND DISPOSAL OF HOUSE AND TRADE REFUSE.

The removal of house refuse is accomplished by the public scavengers employed by the Council, who make weekly rounds to collect the contents of about 2,600 movable receptacles; otherwise where ashpits exists these are emptied on notice being sent to the Authority. During the year 6 offensive uncovered ashpits have been abolished. Suitable covers of tarpaulin are provided for the ashes cart.

The disposal of refuse consists in its being emptied on the "tip." I have long advocated a Destructor as the most sanitary method of refuse disposal, but I am bound to admit that the "tipping" as at present carried out at the sewage farm is robbed of many of its objectionable features, inasmuch as the refuse is levelled and covered over with a good layer of earth, thus obviating the nuisance associated with the ordinary tip.

Constant supervision is necessary to prevent the exposure of a large tipping surface, it should be covered with soil almost as it is tipped, otherwise the decomposing matter may give rise to evil smells for which the sewage works are likely to receive the blame.

WATER SUPPLY.

The water supply is one of which we are justly proud: taking its origin in a series of deep springs in the millstone grit of the Roches which are all carefully covered in, the water is carried directly, practically without storage to the town. The only approach to storage consists in the use of a reservoir situated on the outskirts of the town, which receives the surplus water during the night, this is reduced by the increased demand during the day, diminishing the pressure in the mains, and allowing a flow from the reservoir through an automatic valve. The supply is sufficient, wholesome, and free from risk of serious pollution.

There is no necessity for storage in cisterns on the premises as the supply is on the "constant" system.

Lodging-houses, slaughter-houses, bake-houses, dairies, cowsheads, etc., are dealt with in detail in the Inspector's Report.

INFECTIOUS DISEASES AND ISOLATION HOSPITAL.

Infectious diseases are as far as possible dealt with at the Isolation Hospital; true isolation in the homes being well nigh an impossibility.

We have now ample accomodation for 18 cases, distributed as follows:—

(1) In the east block, two large wards of 6 beds each.

(2) In the west block, one ward of 3 beds, and

on the other side of the block 3 observation wards each accomodating one patient: these small wards have each a door opening into a covered way to the out-offices.

(3) A discharging block, comprising an undressing room, a bath room, a dressing room, in which the disinfected clothing is put on, and a waiting room for friends of patients.

(4) A Nurse's block, comprising a sitting room, 3 bedrooms, bathroom, etc.

The small observation wards prove exceedingly useful.

DISINFECTION.

Disinfection is effected by means of the dense fume of vapourised carbolic acid, produced by a portable apparatus designed by Mr. Farrow, more than twenty years ago, and now made by Messrs. Calvert, of Manchester. This method has been constantly used in this district since that time; it is rapid, clean, efficient, is not injurious to furniture or metal work, and in no way effects the colours of pictures, wallpapers, or delicate fabrics; all great advantages over the sulphur method.

Half-a-pound of phenol can be converted into vapour in three minutes, and is sufficient for the disinfection of a room of the capacity of 1,000 cubic feet.

I have personally proved the efficacy of this vapour by extended bacteriological experiments, and beg to call the attention of the various Authorities of the County

to this simple means of room disinfection; the results obtained with mattresses, bedding, etc., were not, however, satisfactory; for these articles current steam should be used.

We have a "Thresh's Emergency Disinfector," which is kept at the Isolation Hospital; it is portable, and is available for use in the proximity of any house where required. We have also a properly constructed hand-cart for the conveyance of infected bedding, etc., either to the "Disinfector" or to destruction by fire.

VITAL STATISTICS.

Births.

The number of Births registered during the year was 412, which is 10 above the average for the preceding ten years, yeilding a rate of 24·8 per 1,000. There were fifteen still births during the year.

Deaths.

The total number of Deaths registered was 324, which is forty-one more than the ten years' average, and yeilds an uncorrected death rate of 19·5 per 1,000, as against 17·8, the average of the ten preceding years; this mortality rate, when the necessary corrections have been made, becomes 18·6 per 1,000 of the population.

This is a heavy rate for a locality healthily situated as Leek is, and I fear the employment of female labour in the mills accounts for a good deal.

The main causes which are in excess of our average

rates are 10 deaths each attributed to measles and whooping cough, and 23 due to malignant disease (cancer and sarcoma.)

Mean Age of Death.

The mean age at death of each deceased individual is 41·5 years, as compared with 24·8 years for the decade 1851-60; 32 years, 1861-70; 37·2 years, 1891-1900; and 39·6 years for the 9 years, 1901-1909.

AGES AT DEATH.

Under 1 year	...	...	59
Between 1 and 5 years...	...	...	23
.. 5 .. 15 ..	...	...	12
.. 15 .. 25 ..	...	...	16
.. 25 .. 65 ..	...	...	105
Over 65 years	...	...	94

There were five uncertified deaths in the district during the year.

Infant Mortality.

Reviewing the Infant Mortality which is undoubtedly the black spot in our Vital Statistics, 59 deaths have occurred in infants under the age of one year, or 1·6 below the preceding 10 years' average (60·6); the rate per 1,000 births working out at 142·7 as compared with 150·7 for the previous decade.

NOTIFICATION OF BIRTHS ACT.

It is very difficult to measure the good resulting from this Act with our present limited experience, but

there can be no reasonable doubt that the increasing attention now being given to the healthy management of our infants must eventually not only diminish the infant mortality rate, but must also, which is of greater importance, lay the foundation for a more healthy and vigorous life alike in children and in adults. Present results may be disheartening, but the harvest of good will be reaped after many years.

Our Health Visitor, Nurse Hall, is undoubtedly doing excellent work: the following is her report:—

To the Medical Officer of Health for the Leek Urban District.

During the last year, from January 1st to December 31st, 1909, 378 houses where births have occurred have been visited. Of these births ten were twins making a total of 388 infants. Fourteen of these were still-born, and of the remaining 374 living babies 143 were entirely breast fed, 55 breast and hand or breast and bottle fed, and 168 entirely bottle fed. Eight died before any regular method of feeding was adopted.

In each house cards giving hints on Infant feeding have been supplied, these are much appreciated by the mothers, and in many cases the advice given thereon has been carefully carried out.

I have made 1,748 return visits, making a total of 2,126, in order to note the progress of the babies and where necessary to give further advice and practical help.

The mothers of 118 of these babies returned to their

work at the mills at the end of the first or second month, giving their babies out to nurses, who for the most part are elderly women with old fashioned prejudices and difficult to influence.

It is gratifying to find the hygienic tubeless bottle has become more popular ; of the 168 entirely bottle fed babies 122 have used the tubeless bottle.

There have been six cases of ophthalmia among the babies born this year, these have been visited daily and and twice daily, and in each case a perfectly satisfactory recovery resulted.

The Infant weighing machine which was provided in October last has proved very helpful, and been much appreciated and taken advantage of by many of the more intelligent mothers. There is an afternoon every week set apart for the purpose of weighing the babies, and these afternoons, until the weather became severe, were well attended. I am hoping that when certain prejudices are broken down *all* the mothers will bring their babies for periodical weighing.

The young and more intelligent mothers are very tractable and ever eager for advice ; on the other hand there are the careless and indifferent ones, who not wishing to do better are impervious to advice.

In the case where there was obvious neglect, it was necessary to call in the help of the "Society for Prevention of Cruelty to Children" with good results.

There have been 39 deaths occurring during the period of my inspection, which is, till each child is four months old.

Prematurity.

8 at the age of several hours.

1	„	„	four days—hand fed.
1	„	„	nine days—breast fed.
1	„	„	twelve days—bottle fed.
1	„	„	nineteen days—bottle fed.
1	„	„	three weeks—bottle fed.
1	„	„	six weeks—breast fed.
1	„	„	seven weeks—bottle fed.

Feeble from Birth.

3 at the age of few hours.

1	„	„	two days—hand fed.
1	„	„	three days—breast fed.
2	„	„	three weeks—both bottle fed and both one of twins.
1	„	„	two months—breast fed.
1	„	„	three and half months—bottle fed.

Whooping Cough.

1 at the age of seven weeks—bottle fed.

3	„	„	two months—two bottle fed and one breast fed.
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Digestive Disorders.

1	at the age of	two and half months—bottle fed.
1	„	two months—bottle fed.
1	„	three and half months—bottle fed.

Convulsions.

1 at the age of eleven hours.

1	„	„	three weeks—breast fed.
1	„	„	two months—breast fed (suddenly).
1	„	„	four months—breast fed (suddenly).

Bronchitis and Pneumonia.

- 1 at the age of six weeks—bottle fed.
 1 „ „ two months breast fed.

Malformation.

- 1 at the age of two days—bottle fed.
 1 „ „ seven weeks bottle fed.

39 Total.

L. HALL.

THE 3 TO 5 AGE PERIOD.

It is, in my opinion, a mistake to send children under 5 years of age to school. From 3 to 5 years is not only the period of greater frequency of measles and whooping cough, but it is also the most fatal period. At this age therefore the congregating of children at school is dangerous; the law does not compel attendance, but grant is paid on the attendance, which naturally the school authorities do their best to keep up; mothers also make it convenient to get rid of the children for part of the day while they are at work in the mills. Briefly, the result is an increase of "preventable" deaths; a lowered physical and mental condition of the children, and an expenditure of about a million of money a year (on this age period) out of the pockets of the taxpayers.

The Chelmsford Education Committee have decided to exclude children under five years of age from their schools. Children under five ought to be better off under their mother's care, and it is certainly hard upon ratepayers to have to provide teachers at fair or good salaries to act as nurses for mere babies.

I strongly urge the Education Authority to exercise to the full whatever power they possess, on the side of the children. A further argument in favour of the exclusion of children of this age is the room which would be created for older children, and just now when the building of new schools is contemplated, this becomes a very serious consideration.

CAUSES OF DEATH.

Zymotic Class.

The Zymotic class of diseases is responsible for 30 deaths, the average for the previous ten years being 22·2; of these 10 each were attributed to whooping cough and measles, 1 each to influenza, enteric fever, diarrhœa, 2 to diphtheria, and 4 to rheumatism.

In all cases of infectious disease the premises have been promptly inspected, and careful investigation made to discover the source of infection, any sanitary defects discovered being remedied forthwith.

The local milk supply was free from suspicion in every instance.

Six cases of scarlet fever, 19 cases of diphtheria, 18 cases of erysipelas, 2 cases of enteric fever, 6 cases of phthisis, and one case of ophthalmia neonatorum were notified during the year; of which 6 scarlet fever, 16 diphtheria, and 2 enteric fever, were removed to the Isolation Hospital, giving a total of 24 removals to hospital out of 52 cases notified, or 46·1 per cent., or more fairly, calculating the percentage on diphtheria,

scarlet and enteric fever cases, the removals amount to 88·8 per cent. of notifications.

Phthisis.

Phthisis has been responsible for 27 deaths, the average for the preceding ten years being 26·3

Phthisis is now generally considered to be a dirt or filth disease, and I feel sure that if habits of cleanliness were more frequently practiced, together with the admission of plenty of fresh air, especially through the open bedroom windows during hours of sleep, the number of cases of this terrible disease would rapidly diminish.

The "open air" treatment is simply "ventilation" treatment, and it is far easier to prevent than to cure therefore I urge free ventilation of all rooms, and especially of bedrooms in which such a large proportion of our time is spent.

I am pleased to report that since the commencement of the house to house inspection by the inspector no less than 343 bedrooms have been properly ventilated, provided always that people will recognise the fact that a window is made to open. There is much to be said in favour of the adoption of windows which cannot be completely closed. If free ventilation and cleanliness were more generally practiced, we should have fewer and fewer cases of phthisis, and less money would be required from the rates to build and keep up Sanatoria for the treatment of consumptives. If preventive measures are ignored, Sanatoria are bound to be required, and it seems to me such a foolish policy and waste of money to begin at the wrong end of the business.

During the year the voluntary notification of phthisis has been adopted; warnings and instructions with regard to spitting and the prevention of infection have been issued to patients and also posted in the work rooms of the mills and public places. Disinfection of premises is carried out in every case immediately after death occurs.

Diphtheria

Diphtheria has been responsible for 2 deaths out of a total of 19 cases notified. The character of the cases was generally mild. Many mild cases which previously escaped recognition are now notified; undoubtedly these very mild cases are of the utmost importance, constituting as they do a great danger to the community, for a child may contract severe diphtheria from a very mild case. Hitherto a certain amount of laxity has prevailed concerning these mild cases, the sore throat has soon been well and apparently clean, and unfortunately patients have been allowed to mix with other children; in this way I feel convinced we may account for many cases, personal contact at school or at play being a far more important factor in spreading the disease than are so called sanitary defects in the houses.

To diminish the risk of infection in schools I would like to see every school provided with a sterilizer in which all articles such as books, pencils, slates, etc., used by the children would receive their daily purging from infectious impurities. This may sound somewhat extreme, but if infection is to be fairly tackled in its happiest hunting ground, *i.e.*, the school, why hesitate to make it compulsory to erect a disinfector or sterilizer in every school premises? The lives saved might be

many, and the time saved owing to infectious disease absence would be incalculable.

I strongly urge the authorities in every school to disinfect walls and floors by means of a spray. The initial cost of a good spray is small, the labour involved is not great, and the increased health of the children is of even more importance than an increase in the grant on attendance.

Bacteriological Diagnosis.

We continue to use and appreciate the facilities given by the County Council for the bacteriological examination in cases of suspected diphtheria and phthisis.

Measles.

An epidemic of measles originated in one of the Infant Schools, having been introduced by a child who had been staying in the country. It gradually spread over the town affecting most of the Infant Departments.

Several attacks followed close on the heels of chicken-pox, and in such cases the measles are especially severe, and in many cases fatal. I was especially struck with the lowered vitality and diminished resistance where measles followed chicken-pox.

As to the question of closure of the schools I am afraid it is almost useless excepting it be done for a period of ten days, commencing one week after the first case breaks out in any school.

The contacts could then be watched *at home*, where there would be less risk of conveying the disease to many more.

Measles is so extremely infectious in its early stages that measures of prevention are most difficult to devise and carry out.

Ophthalmia Neonatorum.

This disease has been added to the list of diseases requiring notification under the Infectious Diseases Notification Act.

Local Diseases.

In the class of local diseases the mortality from diseases of the brain and nervous system was 46, the average for 10 years being 35·9; that from heart affections 49, the 10 years' average being 36·7; that from diseases of the digestive organs 23, the average for ten years being 25·0; that from diseases of the respiratory organs 54, the ten years' average being 44·0; and that from maglignant disease 23, the 10 years' average being 10·8.

As these diseases are chiefly the result of mistaken and injurious habits of life, influenced very considerably by economic conditions, we do not find that improved sanitation has much influence over them, although in other classes this agency has been most effectual

There is nothing more in this year's mortality returns requiring special comment, and I append table giving principal causes of death in 1909 :--

	Number of Deaths.	Average of preceding 10 years.	Mortality per 1,000 of population.
Influenza	1	1·8	0·06
Measles	10	7·1	0·6
Scarlet Fever... ..	0	0·5	0·0
Diarrhœa	1	1·1	0·06
Diphtheria and Membranous Croup	2	1·2	0·12
Enteric Fever... ..	1	2·5	0·06
Erysipelas	1	1·7	0·06
Whooping Cough	10	3·9	0·6
Rheumatism	4	2·2	0·24
Total Zymotic Diseases ...	30	22·2	1·8
Phthisis	27	26·3	1·62
Bronchitis, Pleurisy, and Pneumonia	42	40·4	2·52
Heart Disease	49	36·7	2·95
Cancer... ..	23	10·8	1·38

VACCINATION.

Through the courtesy of the Vaccination Officer, I am able to give figures relating to the last 13 years' experience in this District.

	Births.	Vaccinated.	Exemptions.	Insusceptible.	Removed.	Dead.	Postponed.
Average for 10 years 1897 to 1906	413·7	227·8	62·3	4	9	41	13·8
1907	384	162	117	0	5	30	24
1908	364	83	213	1	5	29	33
1909	405	93	255	1	2	43	41

The figures in these columns apply only to those children registered during the year, a proportion of which still remain under the vaccination age.

We cannot ignore the fact that there is a considerable opposition to vaccination, in spite of improved methods, vaccination performed at the home, and the use of glycerinated lymph.

The number of exemptions is 62·0 per cent. of the total number of births registered, which is much too high for the safety of the community.

As far as I am able to judge, vaccination is efficiently performed. It is, however, a matter of regret that the Act does not compel the private practitioner to vaccinate in four places as the public vaccinator is obliged to do. It would also, in my opinion, improve the efficiency of vaccination if the Government supplied lymph to all practitioners, inspected the work done, and paid the fees.

The following tables are compiled in the form required by the Local Government Board and the Staffordshire County Council.

During the year the usual inspections of the district have been made and monthly reports have been submitted to the Sanitary Committee, in which any question specially affecting the health of the town has been referred to, and when necessary, suggestions submitted indicating the steps required to achieve a better condition of affairs.

J. MOUNTFORT JOHNSON, M.D.,

Medical Officer of Health.

"TABLE I."—VITAL STATISTICS OF WHOLE DISTRICT DURING 1909 AND PREVIOUS YEARS.

YEAR.	Population estimated to middle of each Year.	Births.		Total Deaths Registered in the District.				Total Deaths in Public Institutions in the District.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	Net Deaths at all ages belonging to the District.	
		Number.	Rate. *	Under 1 Year of Age.		At all Ages.					Num-ber.	Rate. *
				Number.	Rate per 1,000 Births registered.	Num-ber.	Rate. *					
1	2	3	4	5	6	7	8	9	10	11	12	13
1899	15242	376	24.6	74	196.8	323	21.1	40	16	...	307	20.1
1900	15386	414	26.9	59	142.5	280	18.2	40	20	...	260	16.9
1901	15509	406	26.1	68	167.4	294	18.9	38	18	1	277	17.8
1902	15562	422	26.9	70	165.8	298	19.0	36	14	2	286	18.2
1903	15726	420	26.6	56	133.3	277	17.6	37	15	2	264	16.7
1904	15921	422	26.5	71	168.2	302	18.9	38	19	6	289	18.1
1905	16150	425	26.3	51	120.0	248	15.3	37	16	1	233	14.4
1906	16314	376	23.0	49	130.3	263	16.1	34	14	2	251	15.3
1907	16429	392	23.8	56	142.8	272	16.4	36	19	1	254	15.4
1908	16534	367	22.1	52	141.6	277	16.7	35	9	1	269	16.2
Averages for years 1899-1908	15877	402	25.2	60.6	150.7	283	17.8	37.1	16	1.6	269.0	16.9
1909	16610	412	24.8	60	145.6	324	19.5	42	17	2	309	18.6

* Rates in Columns 4, 8, and 13, calculated per 1,000 of estimated population.

NOTE.—The deaths to be included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the District or Division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

"The Public Institutions" to be taken into account for the purposes of these Tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses, and lunatic asylums.

Area of District in acres (exclusive of area covered by water) 1160; total population at all ages, 15,484; number of inhabited houses, 3,380; average number of persons per house, 4.58, at census 1901.

"The Public Institutions" in respect of the deaths, in which corrections have been made, are Leek Union Workhouse, Leek Cottage Hospital, and Royal Infirmary, Manchester.

"TABLE III."
CASES OF INFECTIOUS DISEASE NOTIFIED DURING
THE YEAR 1909.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.							Cases Removed to Leek Isola- tion Hospital.
	At All Ages.	Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and up- wards.	
Small-pox ...	...	...	..	...	...	...	...	...
Cholera ...	...	...	...	...	...	...	...	..
Diphtheria ...	19	...	6	7	3	3	...	16
Membranous Croup ...	...	...	...	...	...	...	...	...
Erysipelas ...	18	...	...	..	3	11	4	...
Scarlet Fever...	6	...	2	3	1	...	...	11
Typhus Fever...	...	...	...	...	...	...	...	...
Enteric Fever...	2	...	..	...	1	1	...	2
Relapsing Fever	...	...	...	...	...	...	...	...
Continued Fever	...	...	...	...	...	...	...	...
Puerperal Fever	...	...	...	...	...	...	..	...
Chicken Pox ...	...	...	...	...	...	...	...	...
Phthisis ...	6	...	...	..	...	6	...	...
Ophthalmia Neonatorum	1	1	...	...	...	...	...	...
Totals ...	52	1	8	10	8	21	4	29

"TABLE IV."

CAUSES OF, AND AGES AT, DEATH DURING YEAR 1909,
IN THE LEEK URBAN DISTRICT.

CAUSES OF DEATH.	DEATHS IN OR BELONGING TO WHOLE DISTRICT AT SUBJOINED AGES.							Total Deaths in Public Institu- tions in the District.
	All Ages.	Under 1 Year.	1 and under 5.	5 and under 15	15 and under 25.	25 and under 65.	65 and up- wards.	
Small-pox ... ..	...	...	...	...	...	...	...	...
Measles	10	7	2	1	...	...	...	...
Scarlet Fever ... ..	...	...	2	...	...	...	...	...
Whooping-cough	10	6	4	...	...	...	...	...
Diphtheria and Mem- branous Croup	2	...	1	1	...	...	...	2
Croup ... ..	...	...	...	...	...	...	...	...
Fever { Typhus ... ..	...	...	...	...	...	...	...	...
{ Enteric	1	...	...	...	1	...	...	1
{ Other continued ... ..	...	...	...	...	...	...	...	...
Epidemic Influenza	1	...	...	...	...	1	...	1
Cholera ... ..	...	...	...	...	...	...	...	...
Plague... ..	...	...	...	...	...	...	...	...
Diarrhoea	1	1	...	...	...	...	...	...
Enteritis	8	6	...	1	...	1	...	...
Puerperal Fever ... ..	...	...	...	...	...	...	...	...
Erysipelas	1	...	...	...	...	...	1	...
Other Septic Diseases	4	...	...	1	1	...	2	...
Phthisis	27	...	1	1	7	16	2	1
Other Tubercular Diseases	5	2	1	...	2	...	...	1
Cancer, Malignant Disease	23	...	...	...	1	15	7	4
Bronchitis	27	3	2	...	...	7	15	2
Pneumonia	14	...	4	2	1	6	1	...
Pleurisy	1	...	...	...	...	...	1	...
Other Diseases of Respiratory Organs	2	...	1	1	...	...	...	...
Alcoholism ... ..	...	...	...	...	...	...	...	...
Cirrhosis of Liver	2	...	...	...	...	2	...	1
Venereal Diseases ... ..	...	...	...	...	...	...	...	...
Premature Birth	14	14	...	...	...	...	...	...
Diseases and Accidents of Parturition ... ..	...	...	...	...	...	...	...	...
Heart Diseases	49	4	...	1	...	25	19	4
Accidents	6	...	...	2	1	...	3	...
Suicides	3	...	...	...	1	2	...	...
All other causes	98	16	7	1	1	30	43	25
All causes...	309	59	23	12	16	105	94	42

INFANTILE MORTALITY DURING THE YEAR 1909.

CAUSE OF DEATH.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under 1 Year.
COMMON INFECTIOUS DISEASES:																	
Small-pox .....																	..
Chicken-pox .....																	..
Measles						2					2	1		1	1		7
Scarlet Fever .....																	..
Diphtheria: Croup .....																	..
Whooping Cough						1	3	1							1		6
DIARRHOEAL DISEASES:																	
Diarrhoea, all forms																1	1
Enteritis (<i>not Tuberculous</i>)						2	2	1	1								6
Gastritis, Gastro-intestinal Catarrh						1								1			2
WASTING DISEASES:																	
Premature Birth	8	1	3		12	2											14
Congenital Defects	1	1			2	1											3
Injury at Birth .....																	..
Want of Breast-milk .....																	..
Atrophy, Debility, Marasmus	3		1		4												4
TUBERCULOUS DISEASES:																	
Tuberculous Meningitis .....																	..
Tuberculous Peritonitis .....																	..
Tabes Mesenterica .....																	..
Other Tuberculous Diseases	2				2												2
Erysipelas .....																	..
Syphilis .....																	..
Rickets .....																	..
Meningitis (<i>not Tuberculous</i>)	1				1												1
Convulsions		1			1	1		1							1		4
Bronchitis						1								2			3
Laryngitis .....																	..
Pneumonia .....																	..
Suffocation, overlaying .....																	..
Other Causes	3				3	1									1	1	6
ALL CAUSES—Certified	18	2	4	1	25	6	8	3	2	1	2	1	4	4	2		59
Uncertified																	

Births in the year

Deaths from all Causes at all Ages

Legitimate 391.

Illegitimate 24.

324.

POPULATION,

Estimated to middle of 1900. — 16,610.

ANNUAL REPORT
OF THE
Medical Officer of Health,
FOR THE YEAR 1909,
FOR THE
URBAN DISTRICT OF LEEK,
ON THE
Administration of the Factory and
Workshop Act, 1901, in connection
with Factories, Workshops, Laund-
ries, Workplaces and Homework

1.—INSPECTION.

INSPECTIONS MADE BY SANITARY INSPECTOR OR INSPECTOR OF NUISANCE.

Premises. 1	Number of		
	Inspections. 2	Written Notices. 3	Prosecutions. 4
Factories (Including Factory Laundries) ...	32	6	...
Workshops (Including Workshops Laundries)	70	4	...
	108	10	...

2.—DEFECTS FOUND.

Particulars. 1	Number of Defects.			Number of Prosecu- tions. 5
	Found. 2	Remedied. 3	Referred to H.M. Inspector. 4	
<i>*Nuisances under the Public Health Acts :—</i>				
Want of Cleanliness	4	4	...	...
Want of Ventilation ... ..	...	...	...	..
Overcrowding ... ..	...	...	...	...
Want of Drainage of Floors ... ..	..	...	...	...
Other Nuisances ... ..	...	...	..	...
<i>†Sanitary Accommodation :—</i>				
Insufficient	3	3	...	...
Unsuitable or Defective	2	2	..	...
Not Separate for Sexes	1	1	...	...
Total	10	10	...	...

* Section 22, Public Health Act Amendment Act 1890 in force here.
| The Sanitary Accommodation Order of 4th February, 1903.

4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year.	Number.
1	2
Dressmakers, Tailors, Milliners, and Hosiery Establishments...	71
Bakehouses	23
Cabinet Makers, Joiners, Carriage Builders, Wheelwrights, and Woodcarvers	29
Boot, Shoe, and Clog Repairers	16
Blacksmiths' Cycle Repairers, Tinsmiths and Plumbers	20
Saddlers, Coopers, Painters, Sculptors, Timber Vards	7
Basket Makers, Rope Walks, Whiplash Making	4
Cardboard Box Making, Silk Balling, Silk Warehouses	20
Trimming Warehouse	1
Total Number of Workshops in Leek	191

One Underground Bakehouse in use at end of year.

J. MOUNTFORT JOHNSON, M.D.,

MEDICAL OFFICER OF HEALTH.

SANITARY INSPECTOR'S REPORT.

ACTION TAKEN FOR THE ABATEMENT OF NUISANCES, ETC.

During the year ending December, 1909, the following cases of Nuisance and other matters complained of were dealt with, comprising :—

	CASES
Defective or want of private drainage	57
Drains tested with smoke	6
Choked Sewers	6
Slop-stone drains admitting sewer gas into a house	
disconnected	3
Defected water closets	33
Offensive privies... ..	13
Offensive ashpits	6
Accumulation of offensive matter... ..	8
Offensive privy cesspools filled up	13
Want of drain ventilation	6
Delapidated buildings... ..	1
Houses in a filthy condition	5
Nuisances arising from overcrowding... ..	3
Defected water spouting	5
Defected roofs	3
Want of proper bedroom ventilation	3
Slaughter-house nuisance	2
Want of proper waste-pipe to lavatory	4
Want of proper receptacle for stable manure... ..	4

CASES

Poultry kept in dwelling house contrary to Bye-Laws	2
Samples of petroleum taken and tested	7
Lock-up shop used as dwelling house	2
Using premises as stores for dead cattle	1
Using dwelling-house as marine stores	1
Cleansing internal organs in cellar	4
Want of proper through ventilation	3
Marine stores kept as to be a nuisance	1
Drainage required at a registered cow-shed	1
Escape of coal gas from gas main	3
Want of w.c. accommodation in factories	13
Offensive swill tubs	4
Want of proper paving in private yards attached to dwelling houses	15
Want of proper privy or water closet accommodation	23
Want of proper movable receptacles for ashes	136
Nuisance arising from dense black smoke	10
Number of houses disinfected	70
Number of schools disinfected	6
Number of infected articles, bedding, etc., disinfected	1317

A considerable number of nuisances were promptly abated on their being intimated to the persons responsible.

There are several unexpired notices of nuisances remaining on the books not yet complied with.

OFFENSIVE PRIVES AND CESSPOOLS.

CASES

Offensive privies demolished or converted into water closets	13
Offensive ashpits abolished, and portable receptacles provided in lieu thereof	6

REMOVAL OF ASHES AND NIGHTSOIL.

The Scavenging Department removed 4526 loads of house ashes and garbage, compared with 4553 during the preceding year, and 77 loads of nightsoil, compared with 110 the preceding year.

The Council have instructed me to see that in future only proper movable covered galvanized iron receptacles are provided, but in the absence of the necessary bye-law, I find a difficulty in carrying the same into effect.

Since the abolition of offensive ash-pits began, the number of loads of ashes has decreased by 460 loads per annum.

COMMON LODGING-HOUSES.

There are 4 houses registered under the Common Lodging-houses Acts, for the reception of 111 casual lodgers. The regulations approved by the Local Government Board for their management are being satisfactorily observed. The Superintendent of Police continues to act as Assistant Sanitary Inspector in respect of Common Lodging-houses at a salary of £10 per annum.

SLAUGHTER-HOUSES.

There are 7 premises situate at various points in the town licensed for occupation as Slaughter-houses.

WORKSHOPS.

There are 187 Workshops on the Register, all of which have been inspected from time to time as occasion

required. On four occasions I have had to complain of contraventions of the provisions of the Act. The number of persons employed in December were as follows :—

SEX.	AGES.			Total
	12 and under 14	14 and under 18	18 and upwards	
Males	7	60	380	447
Females	8	63	161	232
Persons	15	123	541	679

BAKEHOUSES.

There are 23 Bakehouses within the district, all of which were inspected half-yearly, and at other times as occasion required. The number of persons employed being 4 males between 14 and 16 years of age, 42 over 16 years of age, 4 females between 14 and 16 years of age, and 8 over 16 years.

PETROLEUM STORES.

There are 6 Licenses in force for the keeping and sale of Petroleum that flash under 73 degrees Fahrenheit's thermometer (the maximum quantity stored never to exceed 60 gallons) ; 1 license for the storage of 500 gallons of petroleum (wholesale only), and one for the keeping and sale of Calcium Carbide. There are also 2 private storehouses for the keeping of Petroleum under the Home Secretary's order.

GAS SUPPLY.

The purity of the Gas supplied to the town was tested from time to time in the manner required by the 34 and 35th Vic., chap. 41. No impurity arising from

the presence of sulphuretted hydrogen was shown by the tests made at the Town Hall during the year.

NOTIFICATION OF INFECTIOUS DISEASE.

During the year, 52 cases of Infectious Diseases, consisting of 6 cases of scarlet fever, 19 of diphtheria, 2 of enteric fever, 18 of erysipelas, 6 of phthisis, and 1 of ophthalmia neonatorum were notified, and the necessary steps taken to prevent the spread of the disease. The source of milk supply is recorded in every case of infectious disease notified, and we have no evidence of any mischief resulting from its distribution. All children of school age residing in the house are prevented attending school for a period, and the headmaster promptly notified of the cause of their absence.

ISOLATION HOSPITAL.

Year ending December 1909.

Number of patients in Hospital, Jan. 1st, 1909	...	3
Do. do. admitted during the year	...	31
Do. do. discharged do.	...	30
Do. do. died do.	...	3
Do. do. in Hospital, Dec. 31st, 1909	...	1

The average duration in Hospital of each patient discharged or died was 29·5 days.

INTERMENTS WITHIN THE TOWN.

During the year ending December, 1909, 5 interments took place in the Burial Ground attached to St. Edward's Church, and 3 in the ground attached to Mount Pleasant Wesleyan Chapel. The provisions of the Orders in Council relating thereto were duly observed.

TABLE 1.—ABSTRACT OF THE CENSUS RETURNS OF 1851, 1861, 1871, 1881, 1891, AND 1901, WITHIN THE LIMITS OF THE LEEK IMPROVEMENT ACT.

Census Year.	Average Statute Acres.	HOUSES.			PERSONS.			Average number of Persons per house.
		In-habited	Uninhabited	Building.	Males	Females	TOTAL	
1851	1460	1701	39	22	4315	4781	9066	5.06
1861	1460	2228	101	27	4686	5488	10174	4.56
1871	1460	2386	88	2	5087	6244	11331	4.74
1881	1460	2726	136	18	5874	6991	12865	4.71
1891	1460	3022	169	24	6420	7708	14128	4.67
1901	1460	3380	156	78	6917	8567	15484	4.58

TABLE 2.—SHOWING THE MEAN AGE AT DEATH OF MALES, FEMALES, AND PERSONS WITHIN THE LIMITS OF THE LEEK IMPROVEMENT ACT, DURING VARIOUS PERIODS OF THE 59 YEARS ENDING 1909.—(W.H.H.)

Periods.	Mean Age at Death.		
	Males	Females	Persons
	<i>Years.</i>	<i>Years.</i>	<i>Years.</i>
10 years 1851-60	23.5	25.9	24.8
10 years 1861-70	29.1	34.7	32.0
10 years 1871-80	30.8	32.3	31.5
10 years 1881-90	32.7	35.9	34.3
10 years 1891-00	36.1	38.4	37.2
Year 1901	34.9	42.6	38.8
Year 1902	32.9	38.3	35.4
Year 1903	36.2	43.2	39.8
Year 1904	38.4	36.3	37.5
Year 1905	37.7	42.7	40.0
Year 1906	39.5	43.8	41.5
Year 1907	39.8	44.5	42.2
Year 1908	39.8	39.8	39.8
Year 1909	38.5	44.3	41.0

TABLE 3.—PERCENTAGE OF ILLEGITIMATE BIRTHS IN LEEK DURING EACH OF THE UNDER-MENTIONED PERIODS OF THE 59 YEARS ENDING 1909.

Period of Years.	Percentage of Illegitimate Births.
10 years 1851-60	9.7
10 years 1861-70	8.8
10 years 1871-80	8.5
10 years 1881-90	6.8
10 years 1891-00	5.6
Year 1901	5.6
Year 1902	7.5
Year 1903	6.6
Year 1904	6.6
Year 1905	8.2
Year 1906	4.7
Year 1907	7.3
Year 1908	5.4
Year 1909	5.0

HOUSING OF THE WORKING CLASSES ACT.

During the year 1909 it has not been necessary to resort to the provisions of this Act for closing orders.

CANAL BOATS ACTS, 1877 AND 1884.

During the year ended December, 1909, 15 Canal Boats were inspected within the Urban Sanitary District of Leek.

DAIRIES, COW-SHEDS AND MILK-SHOPS ORDER, 1885.

There are 47 persons registered under the above order. 19 are Milk-shops, and the remainder Dairies and Cow-shed. There are 177 milch cows kept. All the said premises were inspected twice during the year.

Table shewing the number of Water-closets, outside and inside; the number of movable receptacles; the number of Ashpits; the number of Privies; and the number of houses with Defective Ventilation at the 31st December, 1909 of houses inspected up to then.

Number of Houses Inspected.	Number of Houses with Defective Ventilation.	Waterclosets.				Movable Receptacles.		Ashpits.	Privies.
		Outside.				Galvanised Iron.	Wood.		
		Inside.	How Supplied with Water.						
			Cistern.	Bucket.	Slop Water				
2952	50	215	711	1908	48	346	2231	27	87

FRANK GREEN,
Sanitary Inspector.